

PATENT COOPERATION TREATY
PCT

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PWO051424	FOR FURTHER ACTION	
	See Form PCT/IPEA/416	
International application No. PCT/US2005/012197	International filing date (<i>day/month/year</i>) 08.04.2005	Priority date (<i>day/month/year</i>) 08.04.2004
International Patent Classification (IPC) or national classification and IPC INV. B65D5/50 B65D5/22 B65D5/46 B65D5/44 B65D71/00		
Applicant MEADWESTVACO PACKAGING SYSTEMS LLC et al.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. (*sent to the applicant and to the International Bureau*) a total of 6 sheets, as follows:
 - sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- Box No. I Basis of the report
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand 08.02.2006	Date of completion of this report 29.05.2006
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US2005/012197

Box No. I Basis of the report

1. With regard to the **language**, this report is based on

- the international application in the language in which it was filed
- a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3(a) and 23.1(b))
 - publication of the international application (under Rule 12.4(a))
 - international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

3-6	as originally filed
1, 2, 2a	received on 22.03.2006 with letter of 20.03.2006

Claims, Numbers

1-15	received on 22.03.2006 with letter of 20.03.2006
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Drawings, Sheets

1/3-3/3	as originally filed
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- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. The amendments have resulted in the cancellation of:

- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (*specify*):
- any table(s) related to sequence listing (*specify*):

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (*specify*):
- any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-15
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-15
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-15
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Part V:

1. GB 406 511 A (KENNETH JAMES MARDON) 1 March 1934 (1934-03-01) is considered as representing the closest prior art.
 - 1.1 The subject matter of claim 1 differs from this prior art in that each reinforcing panel 76,96 is hinged to at least one adjacent reinforcing panel.
 - 1.2 None of the available prior art citations discloses or renders obvious this feature. Consequently the subject-matter of claim 1 meets the requirements of Articles 33(2) and 33(3) PCT.
2. Independent claim 10 defines a blank for forming a carton according to claim 1 and, thus, also meets the requirements of Articles 33(2) and 33(3) PCT.
- 2.1 Dependent claims 2 to 9 and 11-15 concern modifications of the inventive idea embodied in claims 1 and 10 and, thus, also meet the requirements of Articles 33(2) and 33(3) PCT.

Part VII:

1. To meet the requirements of Rule 6.3(b) PCT the independent claims should be properly cast in the two part form, with those features which in combination are part of the prior art (see document D1) being placed in the preamble.

Part VIII.

1. The application does not meet the requirements of Article 6 PCT because Claim 15 is not clear. Claim 15 completely fails to define any features of the blank itself and, thus, lacks clarity, - Art. 6 PCT.
2. According to Rule 6.4(c) PCT the dependent claims shall be grouped together. This requirement has not been met for claims 13 and 14.

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2.1 Dependent claim 12 should refer back to claim 11 only.

CARTON AND CARTON BLANK WITH REINFORCED TOP

Background of the Invention

The present invention relates to a carton for containing a plurality of similar articles, such as bottles and a means for retaining the bottles within the carton and in particular 5 to a means of accessing the articles.

Cartons for encasing multiple articles are useful for enabling consumers to obtain and transport a desired quantity of individual articles such as soft drinks or other beverages. Such cartons need to be strong enough to support multiple articles, 10 especially if the articles are bottles. It is also desirable for such cartons to be easy to handle and portable.

It is often desirable for the articles contained within the carton to be displayed and also for the carton to have large areas which can be printed with advertising graphics. It is 15 also often desirable for the articles to be easily accessible and it is also preferable for the articles to be secured in place within the carton, especially if the articles are fragile, for example glass bottles. It is however undesirable for articles to be accessed too easily, for example, before being purchased.

20 It is also desirable to have a carton which after the contents of the articles have been consumed can be used to return the empty articles to a recycling point.

The present invention seeks to provide a means for displaying the articles or a portion 25 of the articles in combination with an access means for removal of the articles where the access means leaves the carton with sufficient integrity for replacement of articles for the purpose of returning to a recycling point.

GB 406,511 to Mardon discloses a packing case having a diaphragm comprising circular holes in registry with articles placed within the case. CH 93304 to Perret 30 disclosed a one piece container having apertures in a top panel for receiving articles. WO 2003/070580 to Blin discloses a one piece carton having an integral series of top closure panels which interlock to secure the top closure panels in place.

Summary of the Invention

According to a first aspect on the invention there is provided a carton comprising two pieces, a first piece comprising a series of wall panels forming an open top container and a second piece forming a separate top closure, the upper periphery of the open top container being reinforced by a series of integral reinforcing panels hinged around the upper periphery of the wall panels, wherein each reinforcing panel is disposed in overlapping relationships with a separate one of the wall panels of the open top container, and wherein each reinforcing panel is hinged to at least one adjacent reinforcing panel.

- 10 Preferably the top closure is at an elevation below the upper edge of the open top container when the carton is in use.

Preferably the top closure is at an elevation substantially equal to that of a lower extremity of the reinforcing panels when the carton is in use.

- 15 Preferably the open top container comprises at least one reinforced handle aperture struck from at least one of the reinforcing panels, and wherein the handle apertures are located at an elevation above the top closure.

- 20 Preferably the top closure comprises apertures for receiving articles or portions thereof, and wherein each aperture has a frangible connection with at least one other aperture to facilitate removal of the articles.

- 25 Preferably upon removal of the articles, the carton retains sufficient structural integrity such that the carton can be re-used for returning empty articles.

Preferably the upper periphery of the reinforcing panels are hingedly connected to the open top container entirely along the upper edge of the open top container.

- 30 Preferably at least one of the reinforcing panels is hingedly connected at opposed side edges thereof to adjacent reinforcing panels.

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Preferably the top closure comprises at least one end flap hingedly connected thereto, the at least one end flap is folded downward to lie in the plane of the at least one reinforcing panel to avoid covering the handle aperture.

- 5 According to a second aspect of the invention there is provided a two part blank for forming a carton comprising two pieces, a first piece comprising a series of wall panels forming an open top container and a second piece forming a separate top closure, the upper periphery of the open top container being reinforced by a series of integral reinforcing panels hinged around the upper periphery of the wall panels.
- 10 wherein each reinforcing panel is disposed in overlapping relationships with a separate one of the wall panels of the open top container, and wherein each reinforcing panel is hinged to at least one adjacent reinforcing panel.
- 15 Preferably, the top panel comprises apertures for receiving articles or portions thereof, wherein each aperture has a frangible connection with at least one other aperture to facilitate removal of the articles.

Preferably, the first part comprises at least one reinforced handle aperture struck from at least one of the reinforcing panels.

- 20 Preferably a hinged connection between a pair of reinforcing panels comprises a portion which partially separates the reinforcing panels to facilitate folding of the reinforcing panels.
- 25 Preferably, the separate top closure comprises a main panel and a plurality of flaps hinged round the periphery wherein a pair of oppositely disposed flaps are folded upwardly from the main panel and second pair of oppositely disposed flaps adjacent to the first pair are folded downwardly of the main panel.

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Brief Description of the Drawings

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Claims

1. A carton comprising two pieces, a first piece comprising a series of wall panels forming an open top container (10) and a second piece forming a separate top closure (20), the upper periphery (66, 68) of the open top container being reinforced by a series of integral reinforcing panels (76, 96) hinged around the upper periphery (66, 68) of the wall panels, wherein each reinforcing panel (96) is disposed in overlapping relationships with a separate one of the wall panels (16) of the open top container, and wherein each reinforcing panel is hinged to at least one adjacent reinforcing panel.
2. A carton according to claim 1 wherein the top closure is at an elevation below the upper edge of the open top container when the carton is in use.
3. A carton according to any one of claims 1 or 2 wherein the top closure is at an elevation substantially equal to that of a lower extremity of the reinforcing panels when the carton is in use.
4. A carton according to any one of claims 1 to 3 wherein the open top container comprises at least one reinforced handle aperture struck from at least one of the reinforcing panels, and wherein the handle apertures are located at an elevation above the top closure.
5. A carton according to any one of claims 1 to 4 wherein the top closure comprises apertures for receiving articles or portions thereof, and wherein each aperture has a frangible connection with at least one other aperture to facilitate removal of the articles.
6. A carton according to any one of claims 1 to 5 wherein upon removal of the articles, the carton retains sufficient structural integrity such that the carton can be re-used for returning empty articles.

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7. A carton according to claim 1 wherein the upper periphery of the reinforcing panels are hingedly connected to the open top container entirely along the upper edge of the open top container.

5 8.. A carton according to claim 8 wherein at least one of the reinforcing panels is hingedly connected at opposed side edges thereof to adjacent reinforcing panels.

9. A carton according to claim 8 wherein the top closure comprises at least one end flap hingedly connected thereto, the at least one end flap is folded downward to 10 lie in the plane of the at least one reinforcing panel to avoid covering the handle aperture.

10. A two part blank for forming a carton comprising two pieces, a first piece comprising a series of wall panels forming an open top container (10) and a second 15 piece forming a separate top closure (20), the upper periphery (66, 68) of the open top container being reinforced by a series of integral reinforcing panels (76, 96) hinged around the upper periphery (66, 68) of the wall panels, wherein each reinforcing panel (96) is disposed in overlapping relationships with a separate one of the wall panels (16) of the open top container, and wherein each reinforcing panel is hinged to at least 20 one adjacent reinforcing panel.

11. A blank according to claim 11 wherein the top panel comprises apertures for receiving articles or portions thereof, wherein each aperture has a frangible connection with at least one other aperture to facilitate removal of the articles.

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12. A blank according to any one of claims 11 or 12 wherein the first part comprises at least one reinforced handle aperture struck from at least one of the reinforcing panels.

13. A carton according to claim 1 wherein a hinged connection between a pair of 30 reinforcing panels comprises a portion which partially separates the reinforcing panels to facilitate folding of the reinforcing panels.

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14. A carton according to claim 1 wherein the separate top closure comprises a main panel and a plurality of flaps hinged round the periphery wherein a pair of oppositely disposed flaps are folded upwardly from the main panel and second pair of oppositely disposed flaps adjacent to the first pair are folded downwardly of the main panel.
15. A blank to form a carton according to any one of claims 1 to 10 or 14 or 15.